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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,817	09/26/2003	Shuzo Nagami	P/1250-262	6907
2352	7590	08/22/2006	EXAMINER	
OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			HECKERT, JASON MARK	
			ART UNIT	PAPER NUMBER
			1746	

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/671,817

Applicant(s)

NAGAMI ET AL.

Examiner

Jason Heckert

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 15-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12-29-3</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-14, drawn to a substrate processing apparatus, classified in class 134, subclass 184.
 - II. Claim 15-24, drawn to a substrate processing method, classified in class 134, subclass 26.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions of Groups II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.06(e)). In this case the apparatus of Group I can be used to perform a materially different process other than that of Group II, such as a process where a reactive gas is supplied instead of an inert gas.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification and the search for one group is not required for the other group(s), restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Max Maskowitz on Dec. 27, 2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-14. Affirmation of this election must be made by applicant in

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replying to this Office action. Claims 15-24 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 3 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what is meant by "includes a translucent member" as the phrase could imply a variety of objects at various locations in the apparatus. Furthermore, the phrase "light radiation type" is considered vague and indefinite. Please rewrite the claim distinctly claiming the invention.

8. In regards to claim 7, it is not clear what is meant by "bubble suppressing element" as it is a generic term that does not distinctly describe the invention. Please rewrite the claim distinctly claiming the invention.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 5, 6, 9, 11, 14 rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kamikawa. Kamikawa discloses a substrate processing apparatus 18 comprising a cleaning tank to hold liquid 22, a holding element 24, liquid supply nozzles 25, a drying process chamber 23 with drying gas supply nozzles 44, wherein said holding element 24 displaces the substrate from the cleaning chamber to the drying chamber. Supply nozzles 25 supply the chemical solution or cleaning agent as well as the rinse agent, such as heated distilled water. The gas supply nozzles inject drying gas, such as nitrogen, in the direction of the substrate that is displaced in the center of the drying tank during the drying process. This requires a gas flow that is substantially parallel to the liquid surface of the processing liquid in the cleaning chamber. In Fig. 3 the substrate W is clearly depicted as being supported parallel to the vertical direction.

11. Claims 1, 2, 4, 5, 6, 8, 9, 10, 12, 13 rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hayashi et al. Hayashi et al. disclose a substrate processing apparatus comprising a rinsing bath to hold process liquid 12, a substrate holder 28, a supply inlet 18 for supplying the process liquid, a chamber 16 with gas supply inlet 26 for discharging gas into said chamber, and an elevating and lowering device 29 for moving the holder up and down. A heater 90 is used to heat the nitrogen gas injected

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by gas supply inlet 26, thereby controlling the atmosphere of said chamber so as to be in a heated state. The gas supply element includes a filter 94 for filtering the nitrogen gas before it is discharged into the process chamber. While the supply liquid is disclosed as being heated water, the apparatus is fully capable of providing other liquids, such as chemical solutions.

12. In another embodiment of the invention, Hayashi et al. disclose that a heating element 122 and a blower 138 can be provided to heat the process chamber and exhaust air from the process chamber respectively. Used in conjunction with controlling system 130, various parameters such as heat and humidity can be controlled. Furthermore, in this embodiment, an exhaust outlet 62 is located in the vicinity of the liquid surface of said process liquid and the gas supply portion 140 is provided at the upper face of the chamber 16.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al as applied to claims 1 and 2 above. Hayashi et al. discloses all of the limitations of claims 1 and 2, but does not disclose that the process chamber includes a translucent member and a light radiation element. However, Hayashi does disclose the use of a

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translucent member and light radiation element as being well known and in use in prior art (column 2 lines 54-69, column 3 lines 1-2). It would have been obvious to include a translucent member and a light radiation element to heat the substrate as a means to promote drying.

15. Claim 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. or Kamikawa, as applied to claim 1 above, in view of Yoshitani. Both Kamikawa and Hayashi et al. disclose all of the limitations of claim 1, but do not disclose a bubble-suppressing element in the liquid supply line. Yoshitani discloses a substrate processing apparatus that contains a bubble-suppressing element (column 6 lines 1-12). It would have been obvious to one skilled in the art to modify either Hayashi et al. or Kamikawa and include a bubble suppressing element, as disclosed by Yoshitani, in order to provide a uniform treatment of the substrate as well as increased pump stability.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

17. US Patent No.: 6,394,110 to Kamikawa et al. Kamikawa et al. disclose a substrate processing apparatus of containing many similar elements to that of the applicants including multiple chambers for processing, heating elements, supply lines, a movable substrate holder, and a light radiation-heating element.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Heckert whose telephone number is (571) 272-2702. The examiner can normally be reached on Mon. to Friday, 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571)272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMH

A handwritten signature in black ink, appearing to read 'Michael Barr', with a stylized, sweeping underline.

MICHAEL BARR
SUPERVISORY PATENT EXAMINER